placing the old hard curiosity about nature by an attempt at sympathetic comprehension. We no longer think of ourselves as alien from the rest of nature, using our lordship over it for our own advantage; we recognize ourselves as part of nature, and by acknowledging our kinship we are on the surest road to an intelligent mastery. But I must mention one name, that of Carl Hagenbeck, of Hamburg, to be held in high honor by all zoologists and naturalists, although he was not the pioneer, for the open-air treatment and rational display of wild animals in captivity were being begun in many parts of the world while the Thier-Park at Stellingen was still a suburban waste. He has brought a reckless enthusiasm, a vast practical knowledge and a sympathetic imagination to bear on the treatment of living animals, and it would be equally ungenerous and foolish to fail to recognize the widespread and beneficent influence of his example.

However we improve the older menageries and however numerous and well-arranged the new menageries may be, they must always fall short of the conditions of nature, and here I find another reason for the making of zoological sanctuaries throughout the world. If these be devised for the preservation of animals, not merely for the recuperation of game, if they be kept sacred from gun or rifle, they will become the real zoological gardens of the future, in which our children and our children's children will have the opportunity of studying wild animals under natural conditions. I myself have so great a belief in the capacity of wild animals for learning to have confidence in man, or rather for losing the fear of him that they have been forced to acquire, that I think that man, innocent of the intent to kill, will be able to penetrate fearlessly into the sanctuaries, with camera and notebook and field-glass. In any event all that the guardians of the future will have to do will be to reverse the conditions of our existing menageries and to provide secure enclosures for the visitors instead of for the animals.

I must end as I began this address by pleading the urgency of the questions I have been submitting to you as an excuse for diverting your attention to a branch of zoology which is alien from the ordinary avocations of most zoologists, but which none the less is entitled to their fullest support. Again let me say to you that I do not wish to appeal to sentiment; I am of the old school, and believing that animals are subject and inferior to man, I set no limits to human usufruct of the animal kingdom. But we are zoologists here, and zoology is the science of the living thing. We must use all avenues to knowledge of life, studying the range of form in systematic museums, form itself in laboratories, and the living animal in sanctuaries and menageries. And we must keep all avenues to knowledge open for our successors, as we can not guess what questions they may have to put to nature.

P. CHALMERS MITCHELL

THE EIGHTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY

A PRELIMINARY report by Dr. Bernhard Hesse, the secretary of the congress, shows that in the seven days' sessions in New York City, September 6–12, the twenty-four sections of the congress read over five hundred papers, of which about half were discussed. Over five hundred of the papers presented were in print before the congress assembled in New York, thus greatly facilitating their discussion. Every one who has had experience in getting papers into print in advance of a scientific meeting will join in hearty congratulations to the officers of the congress and to its publication committee for this extra-

ordinary feat. Six highly interesting public lectures, by well-known specialists, upon topics of present interest, added to the general attractiveness of the congress. Of the 4,500 members in various parts of the world, 2,173, coming from thirty different countries, were in attendance. The American Chemical Society, the American Institute of Chemical Engineers, the New York branch of the Society of Chemical Industry, the American branch of the Verein Deutscher Chemiker, the American Institute of Mining Engineers and the American Electrochemical Society joined forces with the congress and held joint meetings with the various sections in which they were particularly interested. Such is, in barest outline, a glance at the statistics of the congress.

Of social functions and opportunities for personal intercourse, the congress presented an "embarrassment of riches." Received in a most cordial and genial manner by President Taft on the lawn of the White House, by the secretary and board of regents of the Smithsonian Institution in the new National Museum, by the various scientific bureaus and laboratories of Washington; fêted to the limit of time and capacity in New York City, given a memorable steamer trip up the glorious Hudson, in perfect weather, and finally winding up with two extensive trips of ten and forty days respectively, through the most interesting parts of the United States—each chemist in attendance had the fullest opportunity for feeling welcome, for meeting distinguished colleagues and for seeing the best and most wonderful sights of America.

Of the notable features of the congress, the lecture of Mr. Eyde, the Nestor of the Norwegian saltpeter industry, deserves first place. To probably two thousand people, in the great hall of the Natural History Museum, New York, he told the fascinating story of fixing the nitrogen of the air to nitric acid, in the great Norwegian factories where 250,000 horsepower is harnessed and toiling for this great enterprise. A close second was the lecture on synthetic or manufactured rubber, by Dr. Perkin, of England, the importance of which product is recognized by every one. Dr. Duisberg, of Germany, who claims the honor of the invention for Germany, showed automobile tires of the new product which had given entire satisfaction, but while Germany has done much in developing the invention, the honor of originating it is recognized as belonging to England. But there are honors enough in recent chemical achievements to go all the way around, and no country represented at the congress was without its contributions to chemical successes to which it could point with pride.

Of the resolutions passed by the congress, one of international significance was the approval of the work of, and the continuance of, the commission to publish annual volumes of newly determined chemical and physical constants. The 1910 volume, just issued, is such a splendid and useful volume, that the commission was authorized to continue its preparation of the 1911 and 1912 volumes. Another resolution authorized the use until 1915 of the published atomic weights of 1912 as the standard official table for commercial purposes, thus putting an end to the confusion caused in chemical industries by the use of atomic weights revised every year. Another resolution aimed at standardizing the strength and purity of pharmaceutical products all over the world; another the establishing of better and standard methods of sampling ores, metals and fuels. Other resolutions of a more technical nature, useful to the chemical industry but hardly interesting to the general scientific public, need not be mentioned.

Speaking for ourselves, as hosts, the advantages and returns to us have been colossal. Always in danger of becoming insular, in spite of our continental proportions, we have now felt the liberalizing contact with notable men of other lands speaking other languages. We have had forced upon us the various points of view, from which other people see, not only chemical questions, but from which they regard the general problems of economics, legislation, labor, industry, commerce and the general well-being of nations and the advance of civilization. And we are enriched

thereby, educated, inspired. Have we not also had the inestimable privilege of seeing, hearing, perchance of conversing with, some of the great lights of science whose names are veritable household words and whose presence among us is of itself an uplift? We now feel that we have a grasp on the best that the world can give us, that we henceforth work together with the master minds of the world towards a common goal, that we are an integral part of the great throbbing universal science-world of which we may have felt, heretofore, that we were only an outlying province or a disconnected branch.

Having spoken for ourselves, may we add, speaking for our guests, and doing them the courtesy of taking their words at par value, that they have been equally benefited. America is a name to conjure with in other parts of the world; it is the land of liberty (perhaps of too much liberty), the abode of the most energetic people on earth (perhaps of the too strenuous), the scene of the most colossal activity ever heard of in history (activity perhaps bordering on hysteria), the locus of engineering feats (sometimes with too low a factor of safety) which challenge the admiration of the rest of the world. Of this wonderful country the foreigner has heard, read and seen pictures until, if he has a spark of imagination, his enthusiastic desire to visit it is almost beyond belief. To many such it is the fond dream of a life time. But the wide Atlantic, or the broader Pacific, lies between and many think of the long sea voyage (so restful and agreeable to most of us) with rising fears. However, having made the decision to come, accepted the sacrifices involved and landed among us, having seen as much as could be crowded into the time available, and then returned to their homes, what is the resultant for these members of the congress?

From a most general point of view, without any pride of land or accomplishment, let us admit that our ever-welcome foreign visitor carries back to Europe and other foreign lands the germ of Americanism. American travelers, writers, scientists, are doing a great deal towards "Americanizing" the rest of the world, but our foreign visitors, who see us as we are (not as we pretend ourselves to be), with our human failings as well as our almost superhuman achievements, carry back a juster appreciation of the true American spirit—and its frailties make it even more attractive. The intense love of accomplishment, the generous sharing of credit with others, the brushing aside of formalities and cutting of red tape when things are to be done which should be done, the good will and fellowship towards colleagues and co-workers—these are but a few of the attributes of the American spirit which our foreign guests are quick to perceive and appreciate, and not slow to assimilate and to imitate. Shall we not believe them when they speak of these things with admiration, and tell us that these are the most valuable souvenirs they take back with them to their distant homes? And having arrived there does not the leaven still work? I hesitate to think that any of our fallings from grace (in the way, for instance, of oppressive monopolies and unfair competition) are thus disseminated through the world—I doubt that they are—but I have no manner of doubt that our observing, appreciative and discriminating visitors from abroad will become active propagandists of the distinctively American virtues which they so disingenuously admit us to possess. Careful observers of conditions in Europe, particularly of those parts of Europe most open to the impress of Americanism, see there plainly this growth of the American spirit, in politics, government, science and particularly in the general attitude of people towards each other and towards their daily life. Our visitors will return to their homes partly "Americanized," in the better, or let us say in the best, sense of that word, and let us not be so falsely modest as to deny these facts.

The next International Congress of Applied Chemistry will be held in Saint Petersburg, in 1915, at a time early enough in the year not to interfere with attendance later at our Panama Exposition in San Francisco. In fact, let us here suggest to American chemists that their program for the jubilee year

1915 should be to attend the congress, travel through Russia and Siberia and cross the Pacific to our great World Exposition, thus combining two unrivaled opportunities, the like of which will never occur again. We are the richest people on earth and the most ambitious; let us also become the best informed and the most cosmopolitan: real "citizens of the world."

J. W. RICHARDS

LEHIGH UNIVERSITY

HENRY ADAM WEBER

HENRY ADAM WEBER, professor in agricultural chemistry, Ohio State University, and widely known as an expert chemist, died at his home in Columbus, June 14, after a brief illness from apoplexy. He had not been well for some months and had not been actively engaged in teaching. He was 67 years old.

Professor Weber was born in Clinton Township, July 12, 1845. He studied at Otterbein University. In 1863 he went to Germany to complete his education and studied at the University of Munich. He was one of the early pupils of the eminent German chemist, Justus von Liebig.

Returning to America, he was given the degree of doctor of philosophy by Ohio State University in 1879. For several years Mr. Weber served as assistant chemist for the Ohio geological survey and then became professor of chemistry in the University of Illinois. He attracted wide attention by experiments in the manufacture of sugar from sorghum and held several patents.

In 1884 he returned to Ohio and became professor of agricultural chemistry at Ohio State University, which position he held until the time of his death, and in which he achieved much work of note in the field of agricultural and food chemistry. He held the position of chief chemist of the state dairy and food commission from 1884 to 1897.

He was a fellow in the American Association for the Advancement of Science, a member of the Chemical Society and the Ohio Academy of Science. He was the first president of the Columbus Chemical Society and continued in that office several years. Professor Weber served four years on a committee appointed by Dr. Harvey W. Wiley for the standardization of pure foods, and was the author of a course in qualitative analysis that passed through four editions.

THE DEDICATION OF THE RICE INSTITUTE

THE president and trustees of the Rice Institute have arranged an academic festival from October 10 to 13 to dedicate the institution with appropriate ceremonies and to inaugurate the educational program with a series of lectures. These inaugural lectures are as follows:

* Professor Rafael Altamira y Crevea, of Madrid, Spain; late Professor of the History of Spanish Law in the University of Oviedo; Director of Elementary Education in the Spanish Ministry of Public Instruction.

* Professor Emile Borel, of Paris, France; Director of Scientific Studies at the Ecole Normale Supérieure; Editor-in-Chief of *La Revue du Mois;* Professor of the Theory of Functions at the University of Paris.

Senator Benedetto Croce, of Naples, Italy; Life Senator of the Italian Kingdom; Member of various Royal Commissions; Editor of *La Critica.*

* Professor Hugo de Vries, of Amsterdam, Holland; Director of the Hortus Botanicus and Professor of the Anatomy and Physiology of Plants in the University of Amsterdam.

* Professor Sir Henry Jones, of Glasgow, Scotland; Fellow of the British Academy; Professor of Moral Philosophy in the University of Glasgow; Hibbert Lecturer on Metaphysics at Manchester College, Oxford.

Privy Councillor Baron Dairoku Kikuchi, of Tokyo, Japan; late Japanese Minister of Education; formerly President of the University of Tokyo, and later of the University of Kyoto; recently Lecturer on Japanese Education at the University of London.

Professor John William Mackail, of London, England; former Fellow of Balliol College, and late Professor of Poetry in Oxford University.

Privy Councillor Professor Wilhelm Ostwald, of Gross-Bothen, Germany; late Professor of Chemistry in the University of Leipsic; Nobel Laureate in Chemistry, 1909.